WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Wednesday, May 03, 2006

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT; PLUR=YES; OP=OR	
☐	L1	(mutant$ or mutat$) near2 fie	28

END OF SEARCH HISTORY

L1: Entry 18 of 28 File: PGPB Sep 5, 2002

DOCUMENT-IDENTIFIER: US 20020124282 A1
TITLE: Plant reproduction polynucleotides and methods of use

Summary of Invention Paragraph:
[0004] Arabidopsis fie mutants (for fertilization-independent endosperm) isolated by Ohad et al. (Proc. Natl. Acad. Sci. USA 93:5319-5324, 1996; see also U.S. Pat. No. 6,229,064) exhibit replication of the central cell nucleus, initiating endosperm development, in the absence of fertilization. Inheritance of the mutant fie allele by the female gametophyte results in embryo abortion; thus, the trait can be transmitted to progeny only by the male gametophyte. The Arabidopsis FIE gene was cloned (Ohad et al., The Plant Cell 11:407-416 (1999); GenBank entry AF129516) and found to encode a polypeptide related to the WD Polycomb group proteins encoded by, for example, Esc in Drosophila (Gutjahr et al., EMBO J 14:4296-4306 (1995); Sathe and Harte, Mech. Dev. 52:77-87 (1995); Jones and Gelbart, Mol. Cell. Biol. 13:6357-6366 (1993). WD polycomb proteins may interact with other polynucleotides to form complexes which interfere with gene transcription (Pirrotta, Cell 93:333-336 (1998). Fertilization may trigger alteration of the protein complexes, allowing transcription of genes involved in endosperm development. Thus, loss-of-function fie mutants would lack the ability to form the protein complexes which repress transcription, and endosperm development could proceed independent of fertilization (Ohad et al. 1999, supra).

Detail Description Paragraph:
[0177] Gene inactivation can be used to determine the function of ZmFIE genes in the regulation of endosperm development. When fertilization is prevented in Arabidopsis plants heterozygous for fie mutant alleles, siliques nevertheless elongate and contain seed-like structures due to partial endosperm development. No embryo development is observed (Ohad, Yadegari et al.(1999) Plant Cell 11:407-415). Maize fie mutants would be expected to develop endosperm (or kernels) in the absence of fertilization (i.e. when immature ears are protected from pollination by bags).

Detail Description Paragraph:
[0185] When such nuc1:CHD-DR transformation is accomplished in a mutant fie background, both de novo embryo development and endosperm development without fertilization could occur. (see Ohad et al. 1999 The Plant Cell 11:407-415). Upon microscopic examination of the developing embryos it will be apparent that apomixis has occurred by the presence of embryos budding off the nucellus.

L1: Entry 24 of 28 File: USPT Dec 7, 2004

DOCUMENT-IDENTIFIER: US 6828477 B1
** See image for Certificate of Correction **
TITLE: Method of enhancing endosperm development in a plant

Detailed Description Text (4):
The present invention is based, at least in part, on the discovery of a set of female-gametophytic mutations, termed fie (fertilization-independent endosperm), and the subsequent cloning of the genes involved. Three mutants are disclosed here fie1, fie2, and fie3, which have been mapped to chromosomes 1, 2, and 3 of Arabidopsis, respectively. The fie mutations affect the central cell, allowing for replication of the central cell nucleus and endosperm development without fertilization. FIE/fie seed coat and fruit undergo fertilization-independent differentiation, showing that the fie female gametophyte is the source of signals that activates sporophytic fruit and seed coat development. Generally, the mutant fie alleles are not transmitted by the female gametophyte. Inheritance of a mutant fie allele (e.g., fie3) by the female gametophyte usually results in embryo abortion, even when the pollen bears the wild-type FIE allele. In the case of fie1 and fie2, however, transmission of the trait occurs in about 1% of the progeny from the female gametophyte. In contrast, the fie1, fie2, and fie3 mutant alleles are passed through the male gametophyte (i.e., pollen) in normal fashion.

Detailed Description Text (23):
Gene expression can be inactivated using recombinant DNA techniques by transforming plant cells with constructs comprising transposons or T-DNA sequences. FIE mutants prepared by these methods are identified according to standard techniques. For instance, mutants can be detected by PCR or by detecting the presence or absence of FIE mRNA, e.g., by Northern blots. Mutants can also be selected by assaying for development of endosperm in the absence of fertilization.

Detailed Description Text (37):
As noted above, FIE proteins as products of polycomb group genes are believed to form large complexes in vivo. Thus, production of dominant-negative forms of FIE polypeptides that are defective in their abilities to bind to other polycomb group proteins is a convenient means to inhibit endogenous FIE activity. This approach involves transformation of plants with constructs encoding mutant FIE polypeptides that form defective complexes with endogenous polycomb group proteins and thereby prevent the complex from forming properly. The mutant polypeptide may vary from the naturally occurring sequence at the primary structure level by amino acid substitutions, additions, deletions, and the like. These modifications can be used in a number of combinations to produce the final modified protein chain. Use of dominant negative mutants to inactivate target genes is described in Mizukami et al. Plant Cell 8:831-845 (1996).

Detailed Description Text (61):
The following example describes methods used to identify the fie mutants. The methods described here are generally as described in Ohad et al., Proc. Natl. Acad. Sci. USA 93:5319-5324 (1996).

Detailed Description Text (67):
Heterozygous FIE/fie (Landsberg erecta ecotype) plants were crossed as males with

female plants (Columbia ecotype). Because the mutant fie allele is only transmitted through the male gametophyte, FIE/fie progeny were crossed as males a second time to female gl1/gl1 (Columbia ecotype) plants. Approximately fifty-five progeny were scored for the segregation of the wild-type FIE and mutant fie alleles and for alleles of molecular markers as described previously (Bell, C., et al., Genomics 19: 137-144 (1994)). This analysis indicated that fie3 is located at approximately position 30 on chromosome three, fie2 is located at approximately position 65 on chromosome two, and fie1 is located at approximately position 2 on chromosome one. Genetic recombination frequencies and map distances were calculated according to Koornneef and Stam (Koornneef, M., et al., Methods in Arabidopsis Research, pp. 83-99 (1992)) and Kosambi (Kosambi, Ann. Eugen., 12: 172-175 (1944)).

Detailed Description Text (78):
Seed Coat and Silique Development In a representative line chosen for further study, heterozygous plants produced by back crosses to wild-type plants generated elongated siliques after anther removal with numerous seed-like structures. These results indicated that heterozygous mutant plants were capable of silique elongation and seed-like structure development in the absence of fertilization. We compared the development of the mutant seed-like structures to that of wild-type seeds. After fertilization, the endosperm nucleus replicated and daughter nuclei migrated into the expanding central cell. Ultimately, a syncytium of endosperm nuclei was produced. Nuclear divisions of the endosperm preceded the zygotic divisions that formed the globular stage embryo. Embryo, endosperm or seed coat development did not occur in wild-type plants in the absence of fertilization. Development of the ovule and female gametophyte in heterozygous mutant plants was normal. Just prior to flower opening, female gametophytes in these plants contained a single, prominent central cell nucleus. Subsequently, in the absence of fertilization, central cells with two large nuclei were detected. Further divisions resulted in the production of additional nuclei that migrated into the expanded central cell. Later in development, a nuclear-syncytium was formed with abundant endosperm nuclei. These results indicated that the central cell in mutant female gametophytes initiated endosperm development in the absence of fertilization. We have named this mutation fie for fertilization-independent endosperm. By contrast, replication of other nuclei in fie female gametophytes (egg, synergid, or antipodal) was not detected. Thus, the fie mutation specifically affects replication of the central cell nucleus.

Detailed Description Text (79):
We analyzed the frequency of multinucleate central cell formation in fie female gametophytes by comparing the percentage of multinucleate central cells at three, five, and six days after emasculation of heterozygous FIE/fie and control wild-type flowers. At each time point, only 3% to 5% of wild-type central cells had more than one nucleus. Because none had more than two nuclei, most likely, these represented central cells with haploid nuclei that had not fused during female gametophyte development. By contrast, the percentage of central cells in female gametophytes from FIE/fie siliques with two or more nuclei increased from 21% to 47% over the same time period. These results indicated that the fie mutation caused a significant increase in formation of multinucleate central cells in the absence of fertilization. The fact that close to 50% of the female gametophytes in heterozygous plants had multinucleate central cells suggested that fie is a gametophytic mutation because a 1:1 segregation of wild-type and mutant fie alleles occurs during meiosis.

Detailed Description Text (80):
We compared the fertilization-independent development of the maternal seed coat in FIE/fie seed-like structures to that of fertilized wild-type seeds. The seed coat in wild-type Arabidopsis is generated by the integuments of the ovule and surrounds the developing embryo and endosperm. Similarly, FIE/fie ovule integuments formed a seed coat that surrounded the developing mutant endosperm. These results indicated that the fie mutation activated both endosperm development and maternal sporophytic

seed coat and silique differentiation that support reproduction. No other effects on sporophytic growth and development were detected in FIE/fie plants.

Detailed Description Text (82):
To understand the mode of inheritance of the fie mutation, we analyzed the progeny of reciprocal crosses. FIE3/fie3 females, crossed to wild-type males, produced siliques with approximately equal numbers of viable seeds with normal green embryos and nonviable white seeds with embryos aborted at the heart stage (344:375, 1:1, c2=1.3, P>0.2). Viable seeds from this cross were germinated and all 120 F1 progeny generated were wild-type. That is, none of the F1 progeny had significant levels of F2 aborted seeds in their siliques after self-pollination. Nor did the F1 progeny demonstrate fertilization-independent development. This indicated that presence of the fie mutant allele in the female gametophyte, even when the male provided a wild-type allele, resulted in embryo abortion. Thus, the fie mutation is not transmitted by the female gametophyte to the next generation. To study transmission of fie through the male gametophyte, we pollinated female wild-type plants with pollen from male FIE3/fie3 plants. Siliques from these crosses contained no aborted F1 seed. F1 plants were examined and a 1:1 segregation of wild-type and FIE3/fie3 genotype was observed (62:58, c2=0.13, P>0.5). This indicated that wild-type and mutant fie3 alleles were transmitted by the male gametophyte with equal efficiency. That is, fie does not affect male gametophyte, or pollen grain, function. Results from reciprocal crosses were verified by analyzing the progeny from self-pollinated FIE3/fie3 plants. Self-pollinated siliques displayed 1:1 segregation of normal and aborted seeds (282:286, c2=0.03, P>0.8). Viable seed from self-pollinated siliques were germinated and a 1:1 (71:64, c2 0.36, P>0.5) segregation of wild-type and FIE3/fie3 progeny was observed. These results confirmed that inheritance of a fie mutant allele by the female gametophyte resulted in embryo abortion, and that inheritance of a fie mutant allele by the male gametophyte did not affect pollen function. Thus, the wild-type FIE3 allele probably carries out a function unique to the female gametophyte and does not appear to be needed for male fertility.

Detailed Description Text (85):
In wild-type plants, fertilization initiates embryogenesis and endosperm formation, and activates maternal seed coat and silique development. The results presented here indicate that specific aspects of plant reproductive development can occur in FIE/fie plants in the absence of fertilization. These include silique elongation, seed coat formation, and endosperm development. Morphological analysis shows that early aspects of fertilization-independent fie endosperm development closely resemble fertilized wild-type endosperm development. First, the fie central cell nucleus is stimulated to undergo replication. Second, nuclei that are produced migrate from the micropylar end of the central cell and take up new positions in the central cell. Third, the developing fie central cell expands to form an endosperm cavity. Thus, the requirement for fertilization to initiate these early events in endosperm formation has been eliminated by the fie mutation. This suggests that FIE plays a role in a signal transduction pathway that links fertilization with the onset of central cell nuclear replication and early endosperm development.

Detailed Description Text (87):
One can envision two possible mechanisms for how FIE regulates replication of the central cell nucleus in response to fertilization. The protein encoded by the FIE gene may be involved in a positive regulatory interaction. In this model, FIE is required for the central cell to initiate endosperm development. Normally, fertilization is needed for the presence of active FIE protein. The fie mutation results in the presence of active protein in the absence of fertilization. Alternatively, F1 may by involved in a negative regulatory interaction. In this model, the function of FIE protein is to prevent the central cell from initiating endosperm development, and fertilization results in the inactivation of FIE protein. The fie mutation results in the production of inactive protein, so that fertilization is no longer required to initiate endosperm development However,

complementation experiments using transgenic plants indicate that FIE1 and FIE3 alleles are dominant over their respective mutant alleles. This indicates that the wild-type allele is involved in a negative regulatory interaction. Recently, it has been shown that cyclin-dependent kinase complexes, related to those that function in mammals, control the induction of DNA synthesis and mitosis in maize endosperm (Grafi, G. et al., Science 269: 1262-1264 (1995)). Because fie stimulates replication of the central cell, fie may, either directly or indirectly, impinge upon cell cycle control of the central cell nucleus, allowing replication to take place in the absence of fertilization.

Detailed Description Text (89):
The analysis of FIE/fie mutant plants has provided clues about interactions between endosperm and maternal sporophytic tissues. FIE/fie ovule integuments surrounding a mutant fie female gametophyte initiate seed coat development, whereas FIE/fie integuments in contact with a quiescent wild-type female gametophyte do not develop. This suggests that the FIE/fie ovule integuments initiate seed coat differentiation in response to a signal produced by the fie female gametophyte. We propose that the source of the signal is the mutant fie central cell that has initiated endosperm development, although we cannot rule out the participation of other cells in the fie female gametophyte. In wild-type plants, most likely, fertilization of the central cell produces an endosperm that activates seed coat development. This is consistent with experiments showing that the maize endosperm interacts with nearby maternal cells (Miller, M. E., et al., Plant Cell 4: 297-305 (1992)). FIE/fie plants also display fertilization-independent elongation of the ovary to form the silique. We propose that a signal is produced by the developing seed-like structures to initiate silique elongation. This is in agreement with experiments suggesting that seeds are the source of hormones, auxins and gibberellins, that activate fruit development (Lee, T. D. Plant Reproductive Ecology, pp. 179-202 (1988)). Taken together, these results suggest that the fertilized female gametophyte activates maternal developmental programs.

Detailed Description Text (91):
Certain plant species display aspects of fertilization-independent reproductive development, including apomictic generation of embryo and endosperm, and development of the maternal seed coat and fruit (reviewed in (Koltunow, a. Plant Cell 5: 1425-1437 (1993)). The fie mutation reveals that Arabidopsis, a sexually reproducing plant, has the genetic potential for aspects of fertilization-independent reproductive development. It is not known whether the mechanism of fertilization-independent endosperm development conferred by the fie mutation is the same as autonomous endosperm formation observed in certain apomictic plant species. However, the fact that the fie phenotype is caused by a single genetic locus substantiates the view that the number of genetic differences between sexually and asexually reproducing plants is small (Koltunow, a M., et al., Plant Physiol 108:1345-1352 (1995)).

Previous Doc Next Doc Go to Doc#

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=> file caplus biosis           10/667,295  5/3/06  STN

=> s (mascia, p?)/au
L1            49 (MASCIA, P?)/AU

=> s ((female(2a)steril?) or (embryo?(2a)abort?) or (seed(5a)(infertil? or steril?)))/ab,bi
L2          4916 ((FEMALE(2A) STERIL?) OR (EMBRYO?(2A) ABORT?) OR (SEED(5A)(INFER
                 TIL? OR STERIL?)))/AB,BI

=> s l1 and l2
L3             2 L1 AND L2

=> dup rem
L4             2 DUP REM L3 (0 DUPLICATES REMOVED)

=> d l4 1-2

L4   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:332217  CAPLUS
DN   144:325851
TI   Use of controlled induction of   ***seed***    ***sterility***   in
     controlling the spread of transgenic plants
IN     ***Mascia, Peter N.***
PA   Ceres, Inc., USA
SO   PCT Int. Appl., 43 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND    DATE          APPLICATION NO.        DATE
     ---------------     ----    --------      --------------------   --------
PI   WO 2006009922        A2     20060126      WO 2005-US21612        20050620
     WO 2006009922        A3     20060406
         PRAI US 2004-873679       A      20040622       have

L4   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:270094  CAPLUS
DN   140:265609
TI   Methods for producing infertile transgenic seeds
IN     ***Mascia, Peter***
PA   Ceres, Inc., USA
SO   PCT Int. Appl., 42 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND    DATE          APPLICATION NO.        DATE
     ---------------     ----    --------      --------------------   --------
PI   WO 2004027038        A2     20040401      WO 2003-US29691        20030917
     WO 2004027038        A3     20041021
             CA 2499375           AA     20040401     CA 2003-2499375         20030917
     EP 1546337           A2     20050629      EP 2003-786515         20030917
              US 2005257293        A1     20051117     US 2003-667295          20030917
PRAI US 2002-411823P      P      20020917                  instant
     WO 2003-US29691      W      20030917


=> s ((transcription?(2a)activat?) or operon? or operator?)/ab,bi
L5        210531 ((TRANSCRIPTION?(2A) ACTIVAT?) OR OPERON? OR OPERATOR?)/AB,BI

=> s l2 and l5
L6            26 L2 AND L5

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7             22 DUP REM L6 (4 DUPLICATES REMOVED)

=> d l7 1-22

L7   ANSWER 1 OF 22  CAPLUS  COPYRIGHT 2006 ACS on STN
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AN 2006:332217 CAPLUS
DN 144:325851
TI Use of controlled induction of ***seed*** ***sterility*** in controlling the spread of transgenic plants
IN Mascia, Peter N.
PA Ceres, Inc., USA
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006009922	A2	20060126	WO 2005-US21612	20050620
	WO 2006009922	A3	20060406		
PRAI	US 2004-873679	A	20040622		

have

L7 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:700292 CAPLUS
DN 143:280399
TI Human SRCAP and Drosophila melanogaster DOM are homologs that function in the Notch signaling pathway
AU Eissenberg, Joel C.; Wong, Madeline; Chrivia, John C.
CS Edward A. Doisy Department of Biochemistry and Molecular Biology, Saint Louis University School of Medicine, St. Louis, MO, 63104, USA
SO Molecular and Cellular Biology (2005), 25(15), 6559-6569
CODEN: MCEBD4; ISSN: 0270-7306

L7 ANSWER 3 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 2006:167811 BIOSIS
DN PREV200600169080
TI Evaluation of ***female*** ***sterilization*** at Srinagarind Hospital.
AU Werawatakul, Yuthapong [Reprint Author]; Sakondhavat, Chuanchom; Kuchaisit, Chusri; Kukiattikool, Punnee; Tharnprisan, Piangjit; Ngoksin, Udom; Prasit, Molruedee
CS Khon Kaen Univ, Fac Med, Dept Obstet and Gynecol, Khon Kaen 40002, Thailand
yutwer@kku.ac.th
SO Journal of the Medical Association of Thailand, (AUG 2005) Vol. 88, No. 8, pp. 1028-1034.
CODEN: JMTHBU. ISSN: 0125-2208.

L7 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:270094 CAPLUS
DN 140:265609
TI Methods for producing infertile transgenic seeds
IN Mascia, Peter
PA Ceres, Inc., USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004027038	A2	20040401	WO 2003-US29691	20030917
	WO 2004027038	A3	20041021		
	CA 2499375	AA	20040401	CA 2003-2499375	20030917
	EP 1546337	A2	20050629	EP 2003-786515	20030917
	US 2005257293	A1	20051117	US 2003-667295	20030917
PRAI	US 2002-411823P	P	20020917		
	WO 2003-US29691	W	20030917		

instant

L7 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:392271 CAPLUS
DN 136:398678
TI Protein-binding RNA sequences for incorporation into into mRNAs and their use in the translational regulation of gene expression in plants
IN Conner, Timothy W.; Fabbri, Bradon J.; Huang, Jintai
PA USA
SO U.S. Pat. Appl. Publ., 69 pp.

CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

printed

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002062499	A1	20020523	US 2001-851190	20010508
PRAI	US 2000-203060P	P	20000508		

L7 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:937303 CAPLUS
DN 138:20443
TI Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes

L7 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:560356 CAPLUS
DN 137:245889
TI Pituitary hypoplasia and lactotroph dysfunction in mice deficient for cyclin-dependent kinase-4

L7 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
AN 2002:916162 CAPLUS
DN 138:201982
TI The E2F cell cycle regulator is required for Drosophila nurse cell DNA replication and apoptosis

L7 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:833756 CAPLUS
DN 138:266045
TI Prospects for using genetic transformation for improved SIT and new biocontrol methods
AU Handler, Alfred M.
CS Center for Medical, Agricultural, and Veterinary Entomology, Agricultural Research Service, US Department of Agriculture, Gainesville, FL, 32608, USA
SO Genetica (Dordrecht, Netherlands) (2002), 116(1), 137-149
CODEN: GENEA3; ISSN: 0016-6707

L7 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:690493 CAPLUS
DN 133:361422
TI Activation-induced nuclear translocation of RING3
AU Guo, Ning; Faller, Douglas V.; Denis, Gerald V.
CS Cancer Research Center, Boston University School of Medicine, Boston, MA, USA
SO Journal of Cell Science (2000), 113(17), 3085-3091
CODEN: JNCSAI; ISSN: 0021-9533

L7 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
AN 1996:381446 CAPLUS
DN 125:106425
TI The DNA-binding and enhancer-blocking domains of the Drosophila suppressor of hairy-wing protein

L7 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
AN 1996:722419 CAPLUS
DN 126:87263
TI Myc and Max homologs in Drosophila

L7 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
AN 1995:547407 CAPLUS
DN 123:103538
TI Structure and expression of the br-c locus in Drosophila melanogaster (Diptera: Drosophilidae)

L7 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:666326 CAPLUS
DN 119:266326
TI Binary microbe system for biological control of Fusarium wilt of tomato. Enhanced root-colonization of an antifungal rhizoplane bacterium supported by a chitin-degrading bacterium

AU Toyoda, Hideyoshi; Morimoto, Masayuki; Kakutani, Koji; Morikawa, Masaaki; Fukamizo, Tamo; Goto, Sachio; Terada, Hikojiro; Ouchi, Seiji
CS Fac. Agric., Kinki Univ., Nara, 631, Japan
SO Nippon Shokubutsu Byori Gakkaiho (1993), 59(4), 375-86
CODEN: NSBGAM; ISSN: 0031-9473

L7 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:402480 CAPLUS
DN 119:2480
TI Trans-splicing ribozymes, their preparation, and their use in cell ablation
IN Haseloff, James; Brand, Andrea; Perrimon, Norbert; Goodman, Howard M.
PA General Hospital Corp., USA; Harvard College
SO PCT Int. Appl., 112 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9213089	A1	19920806	WO 1992-US277	19920116
	NZ 314630	A	20001124	NZ 1992-314630	19920115
	CA 2100579	AA	19920718	CA 1992-2100579	19920116
	AU 9212499	A1	19920827	AU 1992-12499	19920116
	AU 653787	B2	19941013		
	EP 567581	A1	19931103	EP 1992-904916	19920116
	JP 06507308	T2	19940825	JP 1992-505337	19920116
	HU 72183	A2	19960328	HU 1993-2049	19920116
	HU 218733	B	20001128		
	CN 1065681	A	19921028	CN 1992-100297	19920117
	ZA 9200349	A	19921028	ZA 1992-349	19920117
	TW 393511	B	20000611	TW 1992-81102785	19920410
	US 5641673	A	19970624	US 1993-90193	19931223
PRAI	US 1991-642330	A	19910117		
	NZ 1992-250704	A1	19920115		
	WO 1992-US277	A	19920116		

L7 ANSWER 16 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1991:186709 BIOSIS
DN PREV199191101458; BA91:101458
TI INTERVAL STERILIZATION STANDARD MINILAP VS MODIFIED MINILAP.

L7 ANSWER 17 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1989:519384 BIOSIS
DN PREV198988135527; BA88:135527
TI A TOTAL OF 250136 LAPAROSCOPIC STERILIZATIONS BY A SINGLE ***OPERATOR***

L7 ANSWER 18 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1988:138760 BIOSIS
DN PREV198885073587; BA85:73587
TI ***FEMALE*** ***STERILIZATION*** WITH PARTICULAR REFERENCE TO LAPAROSCOPIC TUBAL STERILIZATION.

L7 ANSWER 19 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1982:153698 BIOSIS
DN PREV198273013682; BA73:13682
TI THE TITANIUM SILICONE RUBBER CLIP FOR ***FEMALE*** ***STERILIZATION*** .

L7 ANSWER 20 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
AN 1982:175712 BIOSIS
DN PREV198273035696; BA73:35696
TI LUTEAL PHASE PREGNANCIES IN ***FEMALE*** ***STERILIZATION*** PATIENTS.

L7 ANSWER 21 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

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AN   1981:164577  BIOSIS
DN   PREV198171034569; BA71:34569
TI   TECHNICAL FAILURES IN TUBAL RING STERILIZATION INCIDENCE PERCEIVED REASONS
     OUTCOME AND RISK FACTORS.

L7   ANSWER 22 OF 22  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   1965:76327  CAPLUS
DN   62:76327
OREF 62:13549f-g
TI   Evidence for common control of tyrosinase and L-amino acid oxidase in
     Neurospora
AU   Horowitz, N. H.
CS   California Inst. of Technol., Pasadena
SO   Biochemical and Biophysical Research Communications (1965), 18(5-6),
     686-92
     CODEN: BBRCA9; ISSN: 0006-291X


=> d l7 ab 5 9 10 14 15 22

L7   ANSWER 5 OF 22  CAPLUS  COPYRIGHT 2006 ACS on STN
AB   The methods and materials disclosed herein are directed to the control of
     gene expression in plants by means of translational repression.
     RNA-binding proteins binding specifically to  ***operator***  sequences
     positioned in the 5' untranslated region of an MRNA reduce translation.
     Such translation repression systems are useful, for example, for reducing
     expression of an herbicide-tolerance gene in reproductive tissues of a
     plant that retains vegetative tolerance.  Application of the herbicide
     renders the plant male- or  ***female***  -  ***sterile***  .  The use of
     the MS2 and Q.beta. coat proteins and Saccharomyces cerevisiae ribosomal
     protein L32 as RNA binding proteins capable of inhibiting translation is
     demonstrated in vitro.  Translation of .beta.-glucuronidase mRNA carrying
     the MS2 translational  ***operator***  in a wheat germ system was
     effectively inhibited by addn. of mRNA for the coat protein.  The protein
     was also an effective inhibitor in corn, wheat and tobacco leaf
     protoplasts.  Expression of the genes for MS2 coat protein from
     pollen-specific promoters is demonstrated in transgenic corn.  These
     plants also carried the gene for a glyphosate-resistant EPSP synthase
     contg. the MS2 coat protein-binding translation repressor.  Pollen were
     sensitive to glyphosate whereas the plant was resistant, meaning that male
     sterility could be induced by treatment with the herbicide.

L7   ANSWER 15 OF 22  CAPLUS  COPYRIGHT 2006 ACS on STN
AB   A chimeric trans-splicing ribozyme comprising a first RNA sequence
     functioning in targeting of the ribozyme, and a 2nd RNA sequence which is
     capable of being transferred into the target RNA as a result of the
     ribozyme activity is described.  The first RNA sequence hybridizes to an
     RNA encoding a  ***transcription***   ***activator***  protein.
     Expression of the RNA or DNA encoding this ribozyme is operably linked to
     expression of the  ***transcription***   ***activator***  protein.
     Expression of the ribozyme-encoding gene in a multicellular organism
     provides a means of specific cell ablation, and can be used to produce
     male or  ***female***   ***sterility***  in plants, or to immunize
     plants against a pathogen.  The ribozyme can be expressed as a
     proribozyme, which contain self-complementary sequences which prevent
     self-cleavage.  In the presence of target sequences, the intramol.
     interaction is inhibited due to preferential interaction with the
     substrate nucleic acid and the proribozyme is activated.  Trans-splicing
     ribozymes, directed to coat protein RNA of cucumber mosaic virus, and
     capable of inserting RNA encoding the A chain of diphtheria toxin into the
     coat protein RNA, were described.  A ribozyme capable of inserting the
     toxin mRNA into the GAL4 mRNA was prepd. and expressed in a cell-specific
     manner in Drosophila in order to study the effects of cell-specific
     ablation on development.


=> s (lec1(5a)promoter?)/ab,bi
L8          17 (LEC1(5A) PROMOTER?)/AB,BI

=> dup rem
ENTER L# LIST OR (END):l8
PROCESSING COMPLETED FOR L8
```

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L9            15 DUP REM L8 (2 DUPLICATES REMOVED)

=> s l9 and arabidopsis
L10          10 L9 AND ARABIDOPSIS

=> d l10 1-10

L10  ANSWER 1 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:691479  CAPLUS
DN   141:186046
TI   Use of   ***Arabidopsis***   thaliana leafy cotyledon 1 gene for
     modulating embryo development in transgenic plants
IN   Harada, John; Lotan, Tamar; Ohto, Masa-Aki; Goldberg, Robert B.; Fischer,
     Robert L.; Bui, Anhthu; Kwong, Raymond
PA   The Regents of the University of California, USA
SO   U.S., 38 pp., Cont.-in-part of U.S. 6,320,102.
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 7
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   US 6781035           B1    20040824    US 2000-516052         20000301
     US 6545201           B1    20030408    US 1998-26221          19980219
     US 6235975           B1    20010522    US 1998-103478         19980624
     US 6320102           B1    20011120    US 1998-193931         19981117
     CA 2399886           AA    20010907    CA 2001-2399886        20010221
     WO 2001064022        A2    20010907    WO 2001-US5454         20010221
             AU 2001041600        A5    20010912    AU 2001-41600          20010221
     EP 1263280           A1    20021211    EP 2001-912861         20010221
            JP 2004500823        T2    20040115    JP 2001-562933         20010221
PRAI US 1997-804534       A2    19970221
     US 1998-26221        A2    19980219
     US 1998-103478       A2    19980624
     US 1998-193931       A2    19981117
     US 2000-516052       A     20000301
     WO 2001-US5454       W     20010221

L10  ANSWER 2 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:270094  CAPLUS
DN   140:265609
TI   Methods for producing infertile transgenic seeds
IN   Mascia, Peter
PA   Ceres, Inc., USA
SO   PCT Int. Appl., 42 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   WO 2004027038        A2    20040401    WO 2003-US29691        20030917


L10  ANSWER 3 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:261449  CAPLUS
DN   140:401225
TI   Isolation of the gene encoding Carrot leafy cotyledon1 and expression
     analysis during somatic and zygotic embryogenesis
AU   Yazawa, Katsumi; Takahata, Kiminori; Kamada, Hiroshi
CS   Institute of Biological Sciences, Gene Research Center, University of
     Tsukuba, Tsukuba, Ibaraki, 305-8572, Japan
SO   Plant Physiology and Biochemistry (Amsterdam, Netherlands) (2004), 42(3),
     215-223
     CODEN: PPBIEX; ISSN: 0981-9428

L10  ANSWER 4 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2003:276758  CAPLUS
DN   138:282470
TI   Leafy cotyledon1 gene of   ***Arabidopsis***   thaliana and its use in
     modulating gene expression during embryo development
IN   Harada, John J.; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.;
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Fischer, Robert L.
PA The Regents of the University of California, USA
SO U.S., 22 pp., Cont.-in-part of U.S. Ser. No. 804,534.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	---------------	----	--------	--------------------	--------
PI	US 6545201	B1	20030408	US 1998-26221	19980219
	CA 2281487	AA	19980827	CA 1998-2281487	19980220
	EP 977836	A1	20000209	EP 1998-907487	19980220
	US 6235975	B1	20010522	US 1998-103478	19980624
	US 6320102	B1	20011120	US 1998-193931	19981117
	US 6781035	B1	20040824	US 2000-516052	20000301
PRAI	US 1997-804534	A2	19970221		
	US 1998-26221	A	19980219		
	WO 1998-US2998	W	19980220		
	US 1998-103478	A2	19980624		
	US 1998-193931	A2	19981117		

L10 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:843888 CAPLUS
DN 135:369339
TI Leafy cotyledon1 gene of ***Arabidopsis*** thaliana and their uses in modulating gene expression during embryo development
IN Harada, John J.; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.; Fischer, Robert L.
PA Regents of the University of California, USA
SO U.S., 31 pp., Cont.-in-part of U.S. 6,235,975.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	---------------	----	--------	--------------------	--------
PI	US 6320102	B1	20011120	US 1998-193931	19981117
	US 6545201	B1	20030408	US 1998-26221	19980219
	US 6235975	B1	20010522	US 1998-103478	19980624
	WO 9967405	A2	19991229	WO 1999-US14384	19990624
	AU 9948313	A1	20000110	AU 1999-48313	19990624
	US 6781035	B1	20040824	US 2000-516052	20000301
PRAI	US 1997-804534	B2	19970221		
	US 1998-26221	A2	19980219		
	US 1998-103478	A2	19980624		
	US 1998-193931	A	19981117		
	WO 1999-US14384	W	19990624		

L10 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:661191 CAPLUS
DN 135:222367
TI Leafy cotyledon1 genes and promoter from ***Arabidopsis*** thaliana and their uses in embryogenesis in plants
IN Harada, John; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.; Fischer, Robert L.; Bui, Anhthu; Kwong, Raymond
PA Regents of the University of California, USA
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	---------------	----	--------	--------------------	--------
PI	WO 2001064022	A2	20010907	WO 2001-US5454	20010221
	US 6781035	B1	20040824	US 2000-516052	20000301
	CA 2399886	AA	20010907	CA 2001-2399886	20010221
	AU 2001041600	A5	20010912	AU 2001-41600	20010221
	EP 1263280	A1	20021211	EP 2001-912861	20010221
	JP 2004500823	T2	20040115	JP 2001-562933	20010221
PRAI	US 2000-516052	A	20000301		
	US 1997-804534	A2	19970221		
	US 1998-26221	A2	19980219		

US 1998-103478 A2 19980624
US 1998-193931 A2 19981117
WO 2001-US5454 W 20010221

L10 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:366745 CAPLUS
DN 134:362280
TI ***Arabidopsis*** thaliana gene LEAFY-COTYLEDON1, its DNA and cDNA sequences, promoter and use in modulating embryo development in transgenic plants
IN Harada, John J.; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.; Fischer, Robert L.
PA Regents of the University of California, USA
SO U.S., 32 pp., Cont.-in-part of U.S. Ser. No. 26,221.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	---------------	----	--------	--------------------	--------
PI	US 6235975	B1	20010522	US 1998-103478	19980624
	US 6545201	B1	20030408	US 1998-26221	19980219
	US 6320102	B1	20011120	US 1998-193931	19981117
	WO 9967405	A2	19991229	WO 1999-US14384	19990624
	AU 9948313	A1	20000110	AU 1999-48313	19990624
have	US 6781035	B1	20040824	US 2000-516052	20000301
PRAI	US 1997-804534	B2	19970221		
	US 1998-26221	A2	19980219		
	US 1998-103478	A2	19980624		
	US 1998-193931	A	19981117		
	WO 1999-US14384	W	19990624		

L10 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:404694 CAPLUS
DN 133:132589
TI Changes in gene expression in the leafy cotyledon1 (lec1) and fusca3 (fus3) mutants of ***Arabidopsis*** thaliana L.
AU Vicient, Carlos M.; Bies-Etheve, Natacha; Delseny, Michel
CS Laboratoire de Physiologie et Biologie Moleculaire des Plantes, Centre National de la Recherche Scientifique UMR 5545, Universite de Perpignan, Perpignan, 66860, Fr.
SO Journal of Experimental Botany (2000), 51(347), 995-1003
CODEN: JEBOA6; ISSN: 0022-0957

L10 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:819513 CAPLUS
DN 132:60145
TI Leafy cotyledon1 gene and promoter from ***Arabidopsis*** thaliana and their uses for embryo-specific gene expression
IN Harada, John J.; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.; Fischer, Robert L.
PA Regents of the University of California, USA
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	---------------	----	--------	--------------------	--------
PI	WO 9967405	A2	19991229	WO 1999-US14384	19990624
	US 6235975	B1	20010522	US 1998-103478	19980624
	US 6320102	B1	20011120	US 1998-193931	19981117
	AU 9948313	A1	20000110	AU 1999-48313	19990624
PRAI	US 1998-103478	A	19980624		
	US 1998-193931	A	19981117		
	US 1997-804534	B2	19970221		
	US 1998-26221	A2	19980219		
	WO 1999-US14384	W	19990624		

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L10 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:604991 CAPLUS
DN 129:198906

TI   Leafy cotyledon1 gene and promoter from ***Arabidopsis*** thaliana and their uses for embryo-specific gene expression
IN   Harada, John J.; Lotan, Tamar; Ohto, Masa-aki; Goldberg, Robert B.; Fischer, Robert L.
PA   The Regents of the University of California, USA
SO   PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9837184	A1	19980827	WO 1998-US2998	19980220
	CA 2281487	AA	19980827	CA 1998-2281487	19980220
	AU 9863283	A1	19980909	AU 1998-63283	19980220
	AU 732026	B2	20010412		
	EP 977836	A1	20000209	EP 1998-907487	19980220
PRAI	US 1997-804534	A	19970221		
	US 1998-26221	A	19980219		
	WO 1998-US2998	W	19980220		

=> d l10 8 ab

=> s lec1/ab,bi and l2
L11   2 LEC1/AB,BI AND L2

=> d l11 1-2

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
AN   2006:332217 CAPLUS
DN   144:325851
TI   Use of controlled induction of ***seed*** ***sterility*** in controlling the spread of transgenic plants
IN   Mascia, Peter N.
PA   Ceres, Inc., USA
SO   PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006009922	A2	20060126	WO 2005-US21612	20050620

L11 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
AN   2004:270094 CAPLUS
DN   140:265609
TI   Methods for producing infertile transgenic seeds
IN   Mascia, Peter
PA   Ceres, Inc., USA
SO   PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004027038	A2	20040401	WO 2003-US29691	20030917
	WO 2004027038	A3	20041021		

=> s ((mutant? or mutat?)(5a)fie)/ab,bi
L12   20 ((MUTANT? OR MUTAT?)(5A) FIE)/AB,BI

=> s l12 and l2
L13   4 L12 AND L2

=> s l13 not l11
L14   4 L13 NOT L11

```
=> dup rem l14
PROCESSING COMPLETED FOR L14
L15            2 DUP REM L14 (2 DUPLICATES REMOVED)

=> d l15 1-2

L15  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2006 ACS on STN  DUPLICATE 1
AN   2001:8671  CAPLUS
DN   134:190759
TI   Hypomethylation promotes autonomous endosperm development and rescues
     postfertilization lethality in   ***fie***    ***mutants***
AU   Vinkenoog, Rinke; Spielman, Melissa; Adams, Sally; Fischer, Robert L.;
     Dickinson, Hugh G.; Scott, Rod J.
CS   Department of Biology and Biochemistry, University of Bath, Bath, BA2 7AY,
     UK
SO   Plant Cell (2000), 12(11), 2271-2282
     CODEN: PLCEEW; ISSN: 1040-4651

L15  ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2006 ACS on STN  DUPLICATE 2
AN   1996:326996  CAPLUS
TI   A mutation that allows endosperm development without fertilization
AU   Ohad, Nir; Margossian, Linda; Hsu, Yung-Chao; Williams, Chad; Repetti,
     Peter; Fischer, Robert L.
CS   Dep. Plant Biology, Univ. California, Berkeley, CA, 94720-3102, USA
SO   Proceedings of the National Academy of Sciences of the United States of
     America (1996), 93(11), 5319-5324
     CODEN: PNASA6; ISSN: 0027-8424          May
                                                                 printed

=> d l15 1 ab

=> s ant/ab,bi and l2
L16           7 ANT/AB,BI AND L2

=> s l16 not l11
L17           5 L16 NOT L11

=> dup rem l17
PROCESSING COMPLETED FOR L17
L18            4 DUP REM L17 (1 DUPLICATE REMOVED)

=> d l18 1-4


L18  ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2006 ACS on STN  DUPLICATE 1
AN   1996:136937  CAPLUS
DN   124:280540
TI   AINTEGUMENTA, an APETALA2-like gene of Arabidopsis with pleiotropic roles    printed
     in ovule development and floral organ growth
AU   Elliott, Robert C.; Betzner, Andreas S.; Huttner, Eric; Oakes, Marie P.;
     Tucker, William Q. J.; Gerentes, Denise; Perez, Pascual; Smyth, David R.
CS   Dep. Genet. Dev. Biol., Monash Univ., Clayton, 3168, Australia
SO   Plant Cell (1996), 8(2), 155-68
     CODEN: PLCEEW; ISSN: 1040-4651          Feb


=> d l18 ab 1 2 4

=> log y

STN INTERNATIONAL LOGOFF AT 14:53:27 ON 03 MAY 2006
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